

Appendix B

DRAFT ROAD DESIGN STANDARDS COMMENTS AND RESPONSES

Source	Public Comment	National Park Service Response
Havill and Klemmer	Be cautious with road	This consideration is included in the final document.
	Don't adjust road for new tour buses; they should not be considered the standard	GVWR is the same (36200) for all other forward control tour and shuttle buses currently used. The length is shorter (9"). Only the wheelbase is longer (3'4").
	When measuring, only use traveled portion	If only the traveled portion were used, the road would be narrow beyond a safe width and the road character would change. It could also result in <i>increasing</i> road width on the Wonder Lake section since vehicles routinely drive in the ditch. "Traveled portion" is not as clear as the term, "Roadway Width," which describes the road surface that is visible to the driver.
	Don't increase width incrementally through maintenance	The best protection against incremental increases is a good maintainable structure and surface. The Road Design Standards (RDS) will provide both. Also see Faurote comment #4.
Denali National Park Wilderness Centers	Roadway west of Teklanika River Bridge should have a width standard of no less than 22 feet of consistently usable surface, for safety reasons	The 1997 <i>Entrance Area and Road Corridor Development Concept Plan</i> (DCP) established current widths and character.
	Intervisible pullouts should not be part of minimum road width; they should be exclusively for stopping, parking, getting out of traffic flow. They should not be used for passing or allowing to pass except during spring conditions.	Intervisible pullouts are not part of the minimum road width. They are present in locations where the minimum road width falls below 24'. Intervisible pullouts are being constructed for passing, following guidance in the 1997 DCP. The road design standards do not dictate where pulloffs are to be constructed.
	Current regulations for park road should remain in effect	This consideration is included in the final document.

Seegert	Do not widen road west of Teklanika to a uniform width; pullouts are adequate	This consideration is included in the final document.
	New standards should not accommodate new HDX buses because of turning radius, heavier, less ground clearance, and make more dust. Use Bluebird tour bus for standard instead.	The NPS believes this should not be a problem. The HDX type bus has the same GVWR (36,200 lbs) as the 52 passenger tour and shuttle buses in use for over the last 12 years. This document provides a road standard for a structure that can support a design vehicle with a 36,200 pound GVWR. Ground clearance is also not an issue as the HDX bus is currently in use on the park road. In fact, Blue Bird tour bus #127 along with some other Blue Birds have underbody luggage compartments that provide less clearance (11") than the newer HDX type buses. Dust generation is not a design/structural criterion.
Lee	Page 13, 3.2.3, and page 18, 3.7 refer to filling ditches. There should be more specific guidelines as to why and how ditches would be filled. Any work should remain within character (road width) of adjacent roadway.	<p>The RDS is a design document which quantifies road character and guides designed repairs within that character. It is not intended to be a justification document.</p> <p>The NPS believes that the process by which a ditch is filled should be left to the design of a particular repair.</p> <p>Ditches have become overwide due to a chronic lack of maintenance materials in the past. The use of ditch material in an attempt to maintain a smoother travel surface has widened the ditches and shifted the road to the outside. As a result some ditches have widened to a ratio of 7.5 times the depth or 3 times the proper width to depth ratio of width 2.5 times depth. Reclaiming overwide ditches provides a low impact method to address structural and/or safety repairs such as increasing structural stability, eliminating oversteep outside road edges, gaining width where needed, and shifting the road back to its original alignment. All of this can be done while confining work to the existing road structure footprint.</p> <p>Section 3.2.3 limits width to the existing roadway width unless specific structural and/or safety standards cannot be met.</p>

Lee, cont.	Should include plan for rehab of Teklanika gravel pit and any others within view of the roadway.	This issue is outside the scope of this process. It is addressed in the Gravel Acquisition Plan.
	Design vehicle: include wheelbase and amount of noise they emit – NPS should include noise from buses in monitoring	Maximum wheelbase is included in Table 5 as a design vehicle specification. The noise issue is addressed in other management documents and is outside the scope of this document.
	Would like to see consistent road edge and not consistent road width – eliminate “permanent” cones	Projects, day labor and contract labor, have resulted in more consistent road edges on the Wonder Lake section of road (the section with the highest documented incident and accident rate) and the elimination of many permanent cones (Miles 68 and 70-72, Eielson Bluffs super-elevation work). Implementation of road design standards will result in variable road width and consistent road edge as projects are designed and completed.
Faurote	Same as Seegert #2 about HDX buses; in addition should measure from mirror to mirror width because mirrors not movable	Bus mirror measurements from outside mirror edge to outside mirror edge are largely the same for all buses at 9’ 6”, including those on the new HDX tour bus. At least one older blue bird tour bus (bus 127) proved to have mirrors that resulted in overall width of 9’9”. The NPS believes the practice of having to fold mirrors to facilitate passing, especially in areas adjacent to dropoffs, means that the location chosen to pass is incorrect or vehicle positioning is incorrect.
	Soundscape: same as Lee #3	This issue is outside the scope of this process.
	Page 19, section 4: ditches should not be filled to gain road width (possibly same comment as Lee #1)	See Lee #1.

Faurote, cont.	Incremental road growth because of brushing, grading, ditching should be stopped. This causes straightening, as would standard widths; curves are important to road character.	<p>The NPS agrees with the concern about incremental road widening. A road structure meeting the road design standards will prevent or greatly reduce incremental widening.</p> <p>The road design standards call for variable widths instead of standard widths, and projects must be designed accordingly. See Section 3.2.4.</p> <p>In the past, incremental road growth has been due to several factors over a long period of time: 1. Heavy weight bus traffic on a weak substructure flattens and widens the structure. 2. Lack of brushing has let material from traffic and road maintenance hang on roadside brush, increasing apparent surface width and resulting in overly steep edges. Current brushing methods contribute to structural health and maintaining the current road widths. 3. Lack of structural integrity and a maintainable surface are big contributors to incremental widening. Grading and cleaning ditches will not be stopped because a good, defined and crowned driving surface is instrumental to keeping vehicles on the road instead of the margins. When vehicles use the margins to avoid surface problems (potholes), combined with inadequate substructure stability, the road tends to push out laterally (same concept as social trails). 4. Pulling ditches used to be done to supply material to maintain the driving surface. This resulted in ditches becoming too wide and the road structure shifting to the outside and widening over time due to loss of material and reject being overboarded to the outside. This is no longer the case. Clear ditches are essential for road structure health. Currently, in areas where a surface course has been applied and crowned, ditches need only be cleaned once or twice a year at the most.</p>
DCC	Road Character Definition from FC Plan is important	This consideration is included in the final document.
	Section 1.2: Post above definition at beginning of document next to Fed. Hwys. Quote	This consideration is included in the final document.

DCC, cont.	Append to document: Rules of Road, Park Road Maintenance Standards, sign manual, and 2000 regs	Rules of the Road were added to the final document as Appendix C.
	Link these standards to road study	This would be done as part of any NEPA process following the road study.
	Section 1.4: Changes in park road west of Teklanika demand more detailed scrutiny	This was incorporated in the road character definition from the 1997 DCP.
	Section 3.2.3: Filling of ditches to meet ditch standard of 1V to 1.5H: widening should be minimal and not exceed outer disturbance limits of existing ditch. (see detailed comment)	The road design standards contain the following statement: "Widening would not go past the outer disturbance limits of the existing ditch."
	Clarify Section 3.2.4 on use of predominant widths	The NPS believes the existing text adequately conveys the information on widths.
	Section 3.2.5: Add a column to Table 1, page 15, to show existing baseline widths	Adding a column as proposed would not clarify baseline widths. Existing baseline widths are within the maximum general and minimum width, with exceptions at a few specific locations. Goals of the next inventory include a baseline width every 50' or less, each with a GPS coordinate. This information will be made available to the public.
	Section 3.8.1: Clarify how distance between intervisible passing pullouts will be determined; 300-700 range is too broad.	Distances would be determined primarily by the ability to see oncoming traffic, proximity of the next pullout, and a driver's ability to judge whether a vehicle can reach it. Placement of pullouts would depend on the above criteria. The NPS believes that terrain within approximately 300-700 feet dictates the best option for accommodating the pullout with the minimum amount of disturbance. The 300-700 foot range was selected based on topographical factors along the park road and on road locations where truly intervisible pullouts currently exist and prove to work well.

DCC, cont.	Section 4.0: Explain process for how design vehicle was chosen	<p>Since 1995, buses with a GVWR of 36,200 lbs (tour buses) have been using the road, and continue to use the road. The design vehicle was made to reflect the current reality and link them to the standards in an attempt to limit bus size in the future. To keep vehicles from continuing to increase in size and to aid design engineers, specific dimensions and GVWR were given.</p> <p>Barring a management decision to reduce the size of buses, this document can only reflect the current size of vehicle using all sections of the road. To specify a smaller design vehicle than is currently used would result in a road structure not designed for the current situation.</p>
	Eielson-Wonder Lake section of road should not be changed to accommodate design vehicle	<p>The Eielson-Wonder Lake section of road is not being changed to accommodate the design vehicle. Rather, repairs addressing safety and/or structural concerns will use the design vehicle because that vehicle is being used on that section of road (Kantishna businesses and VTS during exceptional need). To specify a design vehicle <i>smaller</i> than is currently using that section of road may compromise safety by basing structurally designed repairs on a smaller/lighter design vehicle than will be used. The road design standards reflect use of current visitor transport vehicles and limit future bus size.</p> <p>A review of documented vehicle incidents between the years of 1996 and 2004 shows that the Wonder Lake section of road, which carries only 24% of the unpaved park road traffic, accounted for 54% of all unpaved road incidents and 100% of all multi vehicle incidents. Of the multi vehicle accidents 100% were the result of two vehicles meeting each other and attempting to pass. Data collected since 1991 indicates that 71% of all WL road accidents involve two vehicles in a passing situation. This document provides a method for addressing this situation while maintaining existing predominant widths and road character.</p>